

Gina Harrison
Director
Federal Regulatory Relations

1275 Pennsylvania Avenue, N.W., Suite 400
Washington, D.C. 20004
(202) 383-6423

PACIFIC  **TELESIS**
Group-Washington

July 14, 1995

RECEIVED
JUL 14 1995
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

William F. Caton
Acting Secretary
Federal Communications Commission
Mail Stop 1170
1919 M Street, N.W., Room 222
Washington, D.C. 20554

DOCKET FILE COPY ORIGINAL

Dear Mr. Caton:

Re: *CC Docket No. 94-54 - Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services*

On behalf of Pacific Bell Mobile Services, please find enclosed an original and six copies of its *"Reply Comments"* in the above proceeding.

Please stamp and return the provided copy to confirm your receipt. Please contact me should you have any questions or require additional information concerning this matter.

Sincerely,



Enclosure

No. of Copies rec'd
List ABCDE

016

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

RECEIVED
JUL 14 1995
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of)
)
Interconnection and Resale Obligations)
Pertaining to)
Commercial Mobile Radio Services)
_____)

CC Docket No. 94-54

DOCKET FILE COPY ORIGINAL

REPLY COMMENTS OF PACIFIC BELL MOBILE SERVICES

PACIFIC BELL MOBILE SERVICES

JAMES P. TUTHILL
BETSY STOVER GRANGER

4420 Rosewood Drive
4th Floor, Building 2
Pleasanton, CA 94588
(510) 227-3140

JAMES L. WURTZ
MARGARET E. GARBER

1275 Pennsylvania Avenue, NW
Washington, D.C. 20004
(202) 383-6472

Its Attorneys

Date: July 14, 1995

TABLE OF CONTENTS

	PAGE
SUMMARY	ii
I. Mutual Compensation Issues Should Not Be Decided In This Proceeding	1
II. The Commission Should Mandate Roaming On Non-discriminatory Terms And Conditions	2
A. Roaming Is A Common Carrier Service And Must Be Offered On A Non-Discriminatory Basis	2
B. The Roaming Requirement We Seek Imposes No Additional Financial Obligation On The CMRS Provider Providing The Roaming Access	4
C. Imposition Of A Roaming Requirement Will Not Injure Consumers ..	5
D. CTIA's Reliance On Section 22.901 Is Misplaced By Its Own Admission	6
E. Fraud Does Not Provide A Basis For Denying A Roaming Requirement	8
F. The Ability To Offer Seamless Roaming Is In The Public Interest	8
III. PCS Services Should Have A Service Specific Resale Requirement	9
IV. Any Resale Requirement Adopted In This Proceeding Should Not Encompass Number Transferability Or Unbundling Of The Facilities-Based Provider's Network	12
V. Conclusion	13

SUMMARY

The Commission should not address the issue of mutual compensation in this proceeding. Mutual compensation is a LEC to CMRS interconnection issue. This proceeding only sought comment on CMRS to CMRS interconnection.

Roaming that consists of the ability of a subscriber to make or receive a call when out of his home service territory should be mandated. This does not require a direct interconnection. Nor does it require the party providing the roaming to make any technical changes to support roaming. The CMRS provider seeking the roaming has the burden of resolving any technical difficulties. However, the party providing the roaming must offer roaming on fair and non-discriminatory terms.

PCS providers should not be required to offer resale until the conclusion of the five year build-out period. Unlike cellular, PCS licensees paid significant amounts of money for their spectrum. They are entering a market with two entrenched competitors. Resale requirements impose another factor in the capacity aspect of network design and may affect deployment decisions. PCS providers will be in a better position to compete with cellular if they can meet their first deployment deadline without having to deal with issues of resale capacity. We continue to support limited resale for facilities-based providers if there is a significant head start issue.

We continue to support the Commission's tentative conclusion with respect to the reseller switch concept. There is no basis for ordering any type of unbundling of facilities in a competitive market.

Number transferability issues should be handled in a separate proceeding. The record in this proceeding does not address the issue of appropriate compensation to the facilities based provider. This issue, as well as technical issues, such as the technical inability to transfer a block of less than 10,000 numbers, must be carefully considered before any number transferability is ordered.

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

RECEIVED
JUL 14 1995
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of)
)
Interconnection and Resale Obligations) CC Docket No. 94-54
Pertaining to)
Commercial Mobile Radio Services)
_____)

REPLY COMMENTS OF PACIFIC BELL MOBILE SERVICES

Pacific Bell Mobile Services hereby replies to selected issues raised in the comments in the above-captioned proceeding.¹

I. Mutual Compensation Issues Should Not Be Decided in This Proceeding.

Several commenters raise issues relating to how mutual compensation should be implemented in the interstate jurisdiction. For example, AirTouch suggests that "bill and keep" contracts that are used for traffic exchanged between two local networks serves as a valuable model for similar cost effective agreements between LECs and CMRS providers.² Similarly, Comcast requests adoption of a "sender-keep-all" approach to LEC and CMRS interconnection.³ As they both recognize, the issue relates to LEC and CMRS interconnection. In the Second Notice of Proposed Rulemaking to which we are replying, the Commission sought comments on CMRS to CMRS interconnection. If the Commission desires to address detailed issues relating to LEC to CMRS interconnection, it should only do so after specifically seeking comments on the issue.

¹ In the Matter of Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services, CC Docket No. 94-54, Second Notice of Proposed Rulemaking, released April 20, 1995. "Second NPRM."

² AirTouch, p. 8.

³ Comcast, p. 2.

We noted in a prior phase to this docket that mutual compensation in the interstate arena is a complex subject and comments in that phase evidenced a great deal of confusion.⁴ We urged the Commission to address the issue in a separate proceeding because the record was confusing and incomplete. The record in the Second Notice of Proposed Rulemaking is also incomplete because commenters were not on notice that this issue was to be discussed. Again, we recommend that if the Commission desires to expand its position or depart from existing precedent on mutual compensation, that it do so in a separate proceeding in which it specifically requests comment. Given the complexity of the subject, a Notice of Inquiry would be appropriate.

II. The Commission Should Mandate Roaming On Non-discriminatory Terms And Conditions.

A. Roaming Is A Common Carrier Service And Must Be Offered On A Non-Discriminatory Basis.

In our comments we strongly supported a roaming regulatory requirement. Specifically, we asked the Commission to mandate fair and non-discriminatory access to cellular out-of-territory networks at any time and non-discriminatory access to cellular in-territory networks during the 10-year build-out period. We also requested PCS providers be required to offer roaming on fair and non-discriminatory terms and conditions to other PCS licensees outside of the latter's territory. We are amending our request to delete access to cellular networks inside of the PCS licensee's territory. Given the build-out requirement on PCS licensees we no longer think access in-territory is necessary or in the public interest.

The roaming that we believe should be mandated is slightly different from that described by the Commission. The Commission defines roaming as the "situation which occurs when the subscriber of one CMRS provider enters the service area of another CMRS provider with whom the subscriber has no pre-existing service or financial relationship, and attempts either to

⁴ Reply Comments of Pacific Bell, Nevada Bell and Pacific Bell Mobile Services, CC Docket 94-54, October 14, 1994, pp. 7-11.

continue an in-progress call, to receive an in-coming call or to place an out-going call.”⁵ We would limit mandated roaming to the ability to place and receive calls outside of the subscriber’s home territory without the subscriber having a pre-existing service or financial relationship with the provider of the visited territory. This type of roaming does not require any direct connection. However, call hand-off between service territories does require a direct connection. As Sprint notes, this is a technically difficult and resource intensive undertaking.⁶ Like Sprint, we do not think that mandated roaming needs to extend to call hand-off. However, the other types of roaming are critical to offering a competitive service, and we seek a clearly defined requirement to offer those types of roaming on a non-discriminatory basis.

Although many commenters asked the Commission not to mandate any requirements with respect to roaming, they largely ignore the fact that roaming is a commercial mobile service. It is a mobile service “provided for profit” and the provider “makes interconnection available” to “classes of eligible users as to be effectively available to a substantial portion of the public.”⁷ As a provider of commercial mobile service, the provider is a common carrier⁸ and is subject to the anti-discrimination provisions of Section 202 of the Communications Act.

While a roaming agreement is an agreement to exchange billing information so that a subscriber outside of his service territory can make and receive calls and be billed by his home service provider, it goes beyond typical billing and collection services which are not Title II common carrier services⁹ because for roaming to occur, the subscriber must be given access to an out-of-territory network. Billing and collection services are services that can be provided by any party with access to the proper billing information. They do not require the provision of any

⁵ Second NPRM, para. 45.

⁶ Sprint, p. 14.

⁷ 47 USCA §332(d).

⁸ 47 USCA §332(c)(1).

⁹ Detariffing of Billing Collection Services, CC Docket No. 85-88, 1 FCC Rcd 445 (1986); 102 FCC 2d 1150 (1985).

network access. Thus, any argument that roaming is simply a billing and collection service must fail. Roaming is properly characterized as a commercial mobile service.

B. The Roaming Requirement We Seek Imposes No Additional Financial Obligation On The CMRS Provider Providing The Roaming Access.

While there were many comments objecting to any kind of regulatory intervention in the area of roaming, some comments evidenced confusion as to just what is necessary to provide the roaming we advocate.

Many commenters raised concerns about the difficulty in mandating a roaming requirement. For example, New Par states that "Any regulation regarding roaming would quickly become out-dated and thus hamstring the development of innovative CMRS technology."¹⁰ AT&T incorrectly assumes that mandated roaming requires a government standard. "Government entities might not have complete information about complex roaming requirements and might therefore choose the wrong standards. Government standards may also reduce the industry's incentive to develop superior standards."¹¹

The government does not have to and should not mandate any standard. It is up to the party requesting the roaming agreement to solve the technical issues to make roaming happen. All we are requesting is that the Commission make clear that roaming must be provided on a non-discriminatory basis. The CMRS provider from whom the roaming capability is sought has no obligation to change his network in any way. He simply has the obligation to offer the roaming capability that he is already offering on non-discriminatory terms and conditions to other CMRS providers. Cellular providers would not have to do anything beyond what they are providing to cellular roamers today. The only difference is that the PCS provider would provide his customers with a dual-mode hand-set to enable the roaming.

APC which also strongly supported a roaming requirement agrees.

¹⁰ New Par, p. 21.

¹¹ AT&T, p. 24.

"Note that APC and other PCS providers are not asking 800 MHz cellular companies to make technical changes to their network, but rather PCS companies would be required to make such roaming technically feasible.... The Commission must establish clearly that it would be a violation of Commission rules and the obligations of a common carrier for an AMPS provider to deny roaming to a PCS subscriber once roaming is technically feasible." ¹²

Consequently, there are no technical barriers to imposing the roaming requirement we seek.

C. Imposition Of A Roaming Requirement Will Not Injure Consumers.

AT&T submits the declaration of Bruce M. Owen in which Mr. Owen gives three reasons why he believes that consumers are likely to be injured by the imposition on cellular providers of obligations to supply roaming services to non-cellular systems.

His first reason is that roaming may not be technically feasible or it may involve a cost that will exceed its value.¹³ As noted above, the cost will fall on the CMRS provider seeking to roam.

His second reason is that a roaming requirement would reduce the demand for roaming services from non-cellular systems and would tend to delay the deployment of non-cellular system.¹⁴ We offer the declaration of Professor Jerry A. Hausman in response to AT&T. Mr. Hausman is a recognized authority on the telecommunications industry. He has submitted testimony to the Commission on various aspects of cellular regulation as well as the regulation of PCS. As Professor Hausman explains in his Declaration to these Reply comments, Mr. Owen's argument is incorrect because competition will cause the economically efficient build-out of PCS networks. Professor Hausman goes on to explain that "Dr. Owen's claim is similar to the statement that a quota will lead to faster expansion of new industries in developing economies.

¹² APC, pp. 8-9.

¹³ Comments of AT&T, Declaration of Bruce M. Owen, p. 26.

¹⁴ Id.

The statement is correct but it ignores the loss in competition and economic efficiency that will harm consumers.”¹⁵

Mr. Owen’s third reason is that there is no reason to believe that there is an anti-competitive incentive for cellular systems to deny roaming services.¹⁶ This belief is echoed in many of the comments. As Professor Hausman explains, Mr. Owen bases his conclusion “on the foregone profit opportunities for offering roaming services. However, he fails to consider the increase in revenue that a cellular provider would gain in a region if PCS is made less attractive by its inability to provide out of region roaming services.”¹⁷

Consequently, Professor Hausman concludes that a transitional roaming requirement “that cellular and PCS licensees provide the same functionality to PCS roaming that cellular operators provide to cellular roaming today under the same terms and conditions will be pro-competitive and will lead to increased consumer welfare.”¹⁸

D. CTIA’s Reliance on Section 22.901 Is Misplaced By Its Own Admission.

CTIA argues that the current requirements under Section 22.901 of the Commission’s rules are sufficiently broad to foster PCS roaming services without imposing undue costs upon the CMRS industry.¹⁹ Section 22.901 states:

Cellular system licensees must provide cellular mobile radiotelephone service upon request to all cellular subscribers in good standing, including roamers, while such subscribers are located within any portion of the authorized cellular geographic service area where facilities have been constructed and service to subscribers has been commenced.²⁰

¹⁵ Hausman Declaration, p. 7.

¹⁶ AT&T, Declaration of Bruce M. Owen, p. 26.

¹⁷ Hausman Declaration, pp. 7-8.

¹⁸ *Id.* at p. 5.

¹⁹ CTIA, pp. 19-20.

²⁰ 47 CFR §22.901.

CTIA explains:

Cellular carriers will service PCS subscribers under current rules assuming the requisite connections and contractual arrangements between carriers are in place. Service will occur in either of two ways. First, a PCS subscriber using a dual-band phone will appear on a cellular system as a cellular customer when the dual-mode PCS phone switches to its cellular mode. Thus, the cellular service rules apply, requiring cellular carriers to provide service to roamer customers. Second, in the unlikely event that a cellular carrier would attempt to deny roaming service to a PCS subscriber using a dual-band phone, nothing would prevent the PCS carrier from programming the dual-band phone with a valid cellular system I.D., and then the cellular system would be unable to distinguish whether it was providing service to a PCS subscriber or a cellular subscriber, thereby allaying potential discrimination concerns.”²¹

The first thing to note about CTIA’s statement is that it begins by “assuming the requisite connections and contractual arrangements are in place.”²² However, as we have pointed out in the past and Mr. Hausman agrees, cellular providers have incentives not to enter into roaming agreements. Thus, in CTIA’s first scenario, it is unlikely that the requisite contractual arrangements and connections will be in place. The second scenario also raises difficulties because as CTIA explains in a footnote, “A PCS provider could obtain valid cellular system I.D.s either from a cellular market licensed to the PCS licensee, or by a resale agreement.” Again, there is an assumption of a relationship with the cellular provider.

We respectfully disagree with CTIA. Section 22.901 is not sufficient to promote roaming. Bell South, on the other hand, does not even attempt to offer Section 22.901 as solution to the roaming issue. “Section 22.901 properly does not impose an obligation on a cellular provider to provide roaming service to such a [PCS] customer, because the customer is not a “cellular subscriber in good standing.””²³ In order for Section 22.901 to promote roaming beyond cellular subscribers the Commission should specifically extend 22.901 to all CMRS subscribers and mandate that roaming be available on fair and non-discriminatory conditions.

²¹ CTIA, p. 20.

²² As noted in the discussion in Sections A and B, the mandated roaming we seek does not require direct interconnection.

²³ BellSouth, p. 5, (emphasis in original).

If anything, the attempts of the cellular providers to defeat any requirement on roaming underscores the need for a roaming requirement. Few are as blatant as Frontier which stated that roaming requirements would “require cellular carriers to sacrifice important competitive advantages from which they have invested substantial sums.”²⁴ Nevertheless, the widespread opposition to a roaming requirement suggests that without prompting from the Commission, cellular carriers and PCS providers associated with cellular carriers will ignore their common carrier obligation to provide roaming on a fair and non-discriminatory basis.

E. Fraud Does Not Provide A Basis For Denying A Roaming Requirement.

CTIA appears to suggest that a mandated roaming requirement would interfere with a CMRS provider’s ability to protect against fraud.²⁵ CTIA notes that carriers must routinely suspend roamer services for a limited period of time to protect customers against fraud and to protect customers against CMRS operators who unreasonably charge. Requiring that cellular providers and PCS providers offer non-discriminatory roaming agreements should in no way limit their ability to negotiate ways to discontinue the service to prevent fraud just as cellular providers do among themselves today.

F. The Ability To Offer Seamless Roaming Is In The Public Interest.

The Rural Cellular Coalition suggests that roaming can already be accomplished because roamers can provide the carrier serving the territory in which they wish to take advantage of roaming service with appropriate credit card or calling card validation prior to obtaining service.²⁶ This is the most limited form of roaming and it only allows the subscriber to originate a call. If there is no roaming agreement in place, the visited location and the home location registers

²⁴ Frontier, p. 6.

²⁵ CTIA, pp. 21-22.

²⁶ Rural Cellular Coalition, p. 5.

will not be able to send calls to the subscriber. Moreover, it is also not a very attractive option because it always requires the inconvenience of inputting the credit card number before making a call.

Seamless roaming, the ability to send and receive calls outside of the home territory, is a common feature in cellular systems today and one that is strongly desired by consumers. As Professor Hausman explains, "CMRS customers put a high value on the ability to roam. The growth rates [42% per year] described above occurred despite premium prices for roaming on many cellular systems."²⁷ For PCS to compete with cellular it must have the same capability. It can have that capability at no financial burden to CMRS provider from whom the roaming is sought by having the Commission simply mandate non-discriminatory access to cellular and PCS out-of-territory networks.

III. PCS Services Should Have A Service Specific Resale Requirement.

When Congress amended the Communications Act in the Omnibus Budget and Reconciliation Act, it sought to attain regulatory parity among all commercial mobile services. However, it recognized that in some instances this would not be possible because of differences in the family of mobile services that fall within the definition of mobile services.²⁸ Thus, the Commission has the authority to depart from regulatory symmetry if there is a market condition that justifies regulation of the services differently.²⁹

In the area of resale, we stated in our comments that because of the differences in the licensing of PCS and cellular services, the same resale requirement should not be imposed. After reviewing the comments, we have further refined our position on the resale of PCS. We no longer support the initial unlimited resale of PCS services by non-licensees. The unique circumstances regarding the introduction of PCS services support a resale rule specific to PCS.

²⁷ Hausman Declaration, pp. 3-4.

²⁸ 47 USCA §332(c)(1)(a).

²⁹ HR Rep. No. 102-313, 103rd Cong., 1st Sess. (1993) at 491.

APC argued in its comments that since PCS is new technology it is critical that it have complete control of its network during the first year of deployment.³⁰ APC noted that it must have a handset certification program in place to ensure the integrity of its system. Without a handset certification in place there is a significant risk that handsets may cause interference with microwave operators still in the band and may also interfere with the efficient operation of the PCS system. An immediate resale requirement would not give APC sufficient time to have a certification program in place. APC also argued that all new technologies require time for adjustment and calibration, a “shake-down cruise” as they call it. “During this ‘shake-down’ cruise, APC cannot tolerate endangering full control of its system due to uncertified handsets, nor can it tolerate interference with existing microwave users and other PCS providers.”³¹ For this reason, APC seeks a minimum of 12 months before it is subject to a resale requirement.

PCIA also supports having the initial year of operation be free from any resale requirement.³² This period would allow the new PCS licensees time to monitor demand for their services and to retain complete control over the use of their facilities. As PCIA points out, cellular was in a different position when it began service because cellular used one technology with type accepted subscriber equipment. PCS services will rely on several different technologies with no one type accepted subscriber equipment.

We agree with APC and PCIA but believe that period in which no resale is required should be extended to five years. Five years marks the first build-out requirement in which PCS providers must supply coverage to one third of the population in their service territories.³³

One year is simply too short a time to develop an accurate gauge of capacity needs and to properly plan for meeting the build-out requirements. If resellers are permitted to enter the market too quickly, they may make capacity demand that interfere with the initial system deployment.

³⁰ APC, p. 9-11.

³¹ APC, p. 10.

³² PCIA, pp. 20-21.

Permitting PCS providers to operate for five years without a resale requirement will enable them to take all the necessary steps to ensure the integrity of their systems and meet the build-out requirements without having to consider the capacity demands of resellers.

There are other reasons to support a deferral of a resale requirement on PCS providers. Unlike cellular, PCS licensees paid significant amounts of money for their spectrum. They are entering a market with two entrenched competitors. They must have complete control and flexibility in their initial deployment in order to be competitive with the existing providers. However, as noted above, resale requirements will impose another factor in the capacity aspect of network design. A reseller may demand certain capacity and then move to a competitor, leaving the PCS provider with stranded investment. This would affect the profitability of the new service and influence deployment decisions. PCS will be in a better position to compete with cellular if it is not faced with a resale requirement in its first five years of operation.

Finally, resale requirements are traditionally imposed on markets in which there are dominant providers as a way of bringing in more competition. In each market PCS providers will have competition from several other PCS providers, plus two cellular providers. No PCS provider is in a dominant position. Consequently from a competitive point of view, there is no reason to require the resale of PCS services.

We urge the Commission to reconsider its tentative conclusion on resale and recognize that there are significant economic reasons, as well as some technical reasons, to treat PCS differently. A deferral of a resale requirement for five years will enhance competition

³³ 47 CFR §24.203(a)

between PCS and cellular by allowing PCS to focus solely on the integrity and deployment of its system. At the end of the five year period, resale should only be available to non-licensees.³⁴

IV. Any Resale Requirement Adopted In This Proceeding Should Not Encompass Number Transferability Or Unbundling Of The Facilities-Based Provider's Network.

The Commission requested comments on whether to make number transferability requirements part of its resale policy.³⁵ However, it also noted that it had not yet decided whether to adopt rules governing number transferability for resellers in this proceeding or in a more general proceeding on number portability.³⁶

CellNet,³⁷ Sprint,³⁸ Mobile One³⁹ and Time Warner⁴⁰ all support the ability of resellers to obtain blocks of numbers. We urge the Commission not to adopt any rules on number transferability for resellers in this proceeding.

Like the issue of resale in general, number transferability raises the issue of stranded investment. It allows resellers to make capacity demands and then change them without having had to make any significant network investment themselves. In addition, it raises some consumer issues. For example, SNET notes that a subscriber's carrier choice could be overruled without the subscriber's consent or knowledge.⁴¹ A subscriber may chose a particular reseller partly based on the underlying carrier chosen by the reseller and may be unaware of the change.

³⁴ In our comments we supported the resale of PCS licenses among licensees serving the same territory if a headstart issue arose for a period equivalent to the delay experienced by later entrants. That period would be measured from the close of the A and B block auctions to close of the final auction for any of the broadband PCS licenses. Licensees could then resell the in-region PCS facilities based providers' service for a length of time equal to the headstart period determined by the formula in the prior sentence. We continue to believe this limited form of resale is in the public interest.

³⁵ Second NPRM, para. 94.

³⁶ *Id.* at n.192.

³⁷ CellNet, p. 2.

³⁸ Sprint, p. 21.

³⁹ Mobile One, p. 1.

⁴⁰ Time Warner, p. 18.

⁴¹ SNET, p. 18.

Resellers are seeking to obtain all of the benefits of facilities-based providers without assuming any of the investment risks through the transferability of numbers and the reseller switch proposal. The Commission should recognize that such proposals skew competition rather than advance it.

Entrants into the CMRS market have a choice of being resellers or facilities-based providers. Any allowance for a hybrid form of reseller that permits attachment of limited facilities to the licensee's network and allows for transferability of numbers unfairly penalizes the licensees that have paid a large amount for the license and must meet build-out requirements. Number transferability should only be permitted after the Commission has adopted specific rules that require the reseller to obtain its own numbers and that provide appropriate compensation to the facilities-based provider with respect to its capacity.⁴² The record in this proceeding does not address these issues. In addition, there are technical issues that must be considered such as the current technical inability to transfer less than a block of 10,000 numbers. We urge the Commission to retain its tentative conclusion with respect to the reseller switch concept and to address the issue of number transferability in a separate proceeding with a complete record that addresses appropriate compensation to the facilities-based provider.

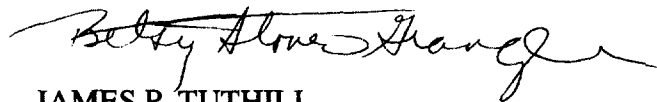
⁴² At the time we were considering resale of cellular service and pursuing number transferability for ourselves we intended to obtain our own numbers and to compensate the cellular provider adequately for the capacity we would require.

V. Conclusion.

The rules that the Commission adopts here will have a significant impact on competition in the CMRS market. We respectfully request that the Commission adopt the positions we have outlined in the above.

Respectfully submitted,

PACIFIC BELL MOBILE SERVICES



JAMES P. TUTHILL
BETSY STOVER GRANGER

4420 Rosewood Drive
4th Floor, Building 2
Pleasanton, CA 94588
(510) 227-3140

JAMES L. WURTZ
MARGARET E. GARBER

1275 Pennsylvania Avenue, NW
Washington, D.C. 20004
(202) 383-6472

Its Attorneys

Date: July 14, 1995

Affidavit of Professor Jerry A. Hausman

1. My name is Jerry A. Hausman. I am the MacDonald Professor of Economics at the Massachusetts Institute of Technology in Cambridge, Massachusetts, 02139.

2. I received an A.B. degree from Brown University and a B.Phil. and D. Phil. (Ph.D.) in Economics from Oxford University where I was a Marshall Scholar. My academic and research specialties are econometrics, the use of statistical models and techniques on economic data, and microeconomics, the study of consumer behavior and the behavior of firms. I teach a course in "Competition in Telecommunications" to graduate students in economics and business at MIT each year. Mobile telecommunications, including competitive and technological developments in cellular, PCS, and ESMR are some of the primary topics covered in the course. I was a member of the editorial board of the Rand (formerly the Bell) Journal of Economics for the past 13 years. The Rand Journal is the leading economics journal of applied microeconomics and regulation. In December 1985, I received the John Bates Clark Award of the American Economic Association for the most "significant contributions to economics" by an economist under forty years of age. I have received numerous other academic and economic society awards. My curriculum vitae is attached.

3. I have done significant amounts of research in the telecommunications industry. My first experience in this area was in 1969 when I studied the Alaskan telephone system for the Army Corps of Engineers. Since that time, I have studied the demand for local measured service, the demand for intrastate toll service, consumer demands for new types of telecommunications technologies, marginal costs of local service, costs and benefits of different types of local services, including the effect of higher access fees on consumer welfare, demand and prices in the cellular telephone industry, and

consumer demands for new types of pricing options for long distance service. I have also studied the effects of new entry on competition in paging markets, telecommunications equipment markets, exchange access markets, and interexchange markets and have published a number of papers in academic journals about telecommunications. Lastly, I have also edited two recent books, Future Competition in Telecommunications (Harvard Business School Press, 1989) and Globalization, Technology, and Competition in Telecommunications (Harvard Business School Press, 1993).

4. I have been involved in the mobile telecommunications industry since 1984. I participated in PacTel's purchase of Communications Industries in 1985 and have provided testimony on previous occasions on cellular competition and regulation to state PUCs and to the FCC. I previously submitted testimony to the FCC on questions of cellular regulation, including the question of whether cellular companies should be allowed to bundle cellular CPE with cellular service, whether the FCC should forbear from regulation of mobile service providers, whether the FCC should require equal access obligations on CMRS providers, and whether the FCC should preempt state regulation of cellular. During the PCS proceedings I have filed 6 affidavits which considered eligibility questions for LECs, the presence of economies of scale and scope in providing PCS, the design of an appropriate auction framework for PCS spectrum, spectrum allocation and band size, eligibility for in-region cellular companies, and the appropriate framework for pioneer preferences. I spoke at the FCC Task Force meeting on PCS held on April 11, 1994. I also have done significant academic research in mobile telecommunications and it is one of the primary topics in my graduate course, "Competition in Telecommunications", which I teach each year at MIT.

I. Summary and Conclusions

5. I have been asked by Pacific Telesis Mobile Services (PTMS) to consider the question of whether out of region roaming requirements for wireless carriers would be in the public interest. I conclude that an out of region roaming requirement at non-discriminatory prices would be pro-competitive, would increase consumer welfare and would increase the adoption of PCS.

6. The roaming requirement should be designed so that it imposes no additional costs on wireless carriers. The requirement would impose the same obligation on wireless carriers that currently applies to cellular carriers that they have with respect to other cellular carriers. Thus, the outcome of the requirement will be pro-competitive. The requirement should also exist only for a transitional period. After this transitional period, the requirement should be removed, and market forces will likely lead to an economically efficient outcome.

II. Economic Analysis of Roaming

7. "Roaming" describes the situation when a subscriber of a given Commercial Mobile Radio Service (CMRS) uses the service of another CMRS provider even though the subscriber has no pre-existing service relationship with the "foreign" provider. Roaming has become increasingly important in the cellular industry where about 13.6% of revenues in the last 6 months of 1994 arose from roaming. Growth in roaming revenues has been about 42% per year as roaming has been technically easier for the cellular subscriber to use. Roaming revenues have been growing faster than overall cellular revenues by a statistically significant amount. Incoming calls are now significantly easier to receive in many situation than they were a few years ago. Furthermore, in-progress calls are no longer dropped at service boundaries. Given the essential mobile feature of CMRS, roaming should continue to become increasingly important in the future.

8. CMRS consumers place a high value on the ability to roam. The growth rates described above occurred despite premium prices for roaming on many cellular systems. The majority of cellular customers belong to discount plans on their home cellular systems. These discount plans take a number of forms: (1) customers receive a discount for committing to one year or longer contracts (2) customer receive discounts for plans which have given usage levels (3) customers receive discounts when they subscribe to multiple cellular numbers. However, when cellular subscribers roam to foreign cellular systems, these discounts are typically not in effect. Thus, most customers pay a non-discounted price to roam.

9. Roaming competition has also been an important component of overall cellular competition. For example, roaming is quite heavy in the Northeast corridor, i.e. the Boston-Washington region. Until about 2 years ago the standard roaming fee was \$3 per day plus the undiscounted price per minute of use (or even higher). The Block A carrier in Boston and Washington eliminated the \$3 per day charge for roaming. The Block A carrier gained significant market share in Boston after making this change. Subsequently, the Block B carrier in Boston also eliminated the daily roaming charge. This form of price competition directly benefits consumers and leads to greater spectrum usage through high cellular demand.

III. The Likely Importance of Roaming on Cellular Systems for PCS

10. PCS will begin operation in 1996. It is likely that PCS operators will adopt different technologies. I expect that GSM, currently used in the UK, Germany, Australia, and a number of other countries, will be a widely used technology. However, no guarantee exists that it will be adopted in every PCS MTA. Indeed, I consider this outcome to be unlikely since numerous PCS licensees currently operate cellular networks in other regions and are likely to adopt TDMA or CDMA technology to be compatible with their existing cellular systems. Thus, it is unlikely that a single technology will exist nationwide

for PCS at the beginning of its operation.

11. However, a single nationwide CMRS technology will exist over the next five years, the cellular technology currently in use on the two cellular blocks. Thus, a dual mode mobile telephone which can operate on digital PCS and on cellular will be able to provide nationwide roaming. A PCS customer who wants to roam would be able to buy a dual mode phone and use PCS in a home region, and other PCS MTAs which adopt the same technology, and use cellular roaming in incompatible technology PCS MTAs.

12. Roaming is extremely rapidly growing with about 14% of cellular revenues arising from roaming. Roaming is likely to be even more important for PCS. PCS will have very lightweight and long lasting battery mobile handsets which will make it more convenient to carry the handset at all times (future cellular handsets will also have these features). I also expect the price of mobile calls to decrease with the inception of PCS for reasons that I have discussed in previous affidavits to the FCC. These lower prices will cause consumers to make more use of CMRS and could cause consumers to adopt the use of cellular and PCS as their overall "personal" phone numbers. With these changes in technology and in prices, I expect that roaming will continue to become increasingly important in the overall usage of mobile voice services.

IV. Transitional Rules for Roaming Will Be in the Public Interest

13. An FCC requirement that cellular and PCS licensees provide the same functionality to PCS roaming that cellular operators provide to cellular roaming today under the same terms and conditions will be pro-competitive and will lead to increased consumer welfare. PCS demand for roaming is likely to be quite strong, and it is unlikely that nationwide availability of non-cellular PCS roaming will exist during the startup phase of PCS. Thus, CMRS competition will be advanced if new PCS operators can provide roaming which is currently available to cellular operators. PCS customers will also value the

ability to roam into other regions, much as cellular customers do today.

14. However, in imposing this regulation it is important that the costs of cellular providers are not increased by this requirement. Thus, the PCS subscriber should be required to have a dual mode handset which is transparently similar to a roaming cellular handset to the cellular operator. In this situation where costs of cellular and PCS roaming would be the same, cellular operators could offer the same roaming terms with no loss in net revenues. Overall demand and consumer welfare would increase with no financial burden placed on existing cellular operators. The outcome will be pro-competitive and will lead to increased consumer welfare.

15. The immediate question to an economist (at least an economist such as myself) is what is the source of potential market failure which creates this regulatory requirement? The potential market failure arises from two sources. First, in the early stages of PCS it is unlikely that a single technology will be adopted in each MTA. Thus, parts of the country will exist in which a given PCS technology will not exist. I expect this problem to become less important over time as experience is gained with PCS technologies, PCS technology consortia are formed (as has happened in cellular), and the smaller 10 MHz BTA blocks are auctioned which will increase technology diversity in a given region. Thus, the first source of potential (transitory) market failure is the limited spectrum blocks available for PCS at the current time and the startup nature of PCS.

16. Second, some current cellular operators may find it in their economic interest not to provide roaming to certain PCS operators. For example, suppose that a current cellular operator attempts to limit competition from PCS in its region. The cellular operator could deny roaming or charge higher roaming prices in its other regions to put the new PCS services at a competitive disadvantage. A number of large (top 30) cellular

MSAs exist where both cellular carriers also control both blocks in a different MSA so that unilateral economic actions could lead to this outcome.

17. Dr. Bruce Owen, who submitted an affidavit on behalf of AT&T/McCaw claims that because two cellular system exist in each area, current cellular providers would not find it in their economic best interest to deny roaming or charge higher roaming prices to their new PCS rivals in other regions (Owen aff., June 14, 1995, ¶ 62). However, he apparently has not investigated the current allocation of cellular MSAs which makes this outcome quite possible. Each cellular operator may find it to be economically beneficial to deny roaming or to charge higher prices for roaming in certain cellular MSAs to make PCS less desirable to consumers who place a high value on roaming.

18. Dr. Owen raises three argument against the requirement for cellular systems to include provision of roaming to PCS, similar to the current provision that requires cellular operators to provide roaming service to subscribers of other cellular systems. First, he states that roaming may not be technically feasible or it may lead to costs which exceed its value. (¶ 64) Under my proposal of technically transparent roaming, all technical obligations will fall on the PCS provider, not on the current cellular providers. Thus, technical feasibility and cost will not be an issue. Second, Dr. Owen states that a roaming requirement would reduce the demand for roaming services from non-cellular systems. Thus, he claims roaming obligations could create delay in the deployment of non-cellular systems. (¶ 65) This argument is incorrect because competition will cause the economically efficient buildout of PCS networks. Dr. Owen's claim is similar to the statement that a quota will lead to faster expansion of new industries in developing economies. The statement is correct, but it ignores the loss in competition and economic efficiency which harm consumers. Lastly, Dr. Owen restates his claim that no incentive exists for cellular systems to deny roaming services. (¶ 66) He bases this claim on the foregone profit